



## Safety & Mission Assurance

Presenter **M. D. Erminger**

Date **January 9, 2003**

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# STS-107

## Flight Readiness Review



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# Approach and General Description

**S&MA held reviews in preparation for the STS-107 Flight Readiness Review on 20 December 2002, and 7 January 2003 and is ready to proceed toward launch countdown.**

## FRR Briefing Overview

- **Significant assessments - *discuss***
- **Special topics**
  - **NASA Safety Reporting System (NSRS) - *discuss***
  - **Space Shuttle Hazard Analysis - *discuss***
  - **Space Shuttle FMEA/CIL – *discuss***
- **Significant open work - *discuss***
  - CoFR exceptions - *none*
  - Open action items - *none*



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# Significant Assessments

## Orbiter

- **OV-103 BSTRA Crack** \* *significant open work*

## SRB

- **Amphenol Connector Pin Lack of Retention**
- **BSM Paint Chip FOD**

## SSME

- **STS-113 Engine #1 Nozzle Leak**

***ADDITIONAL ASSESSED ITEMS ARE IN THE BACKUP CHARTS***



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## NSRS Summary

**There are no NASA Safety Reporting System reports open that are applicable to STS-107.**

## Hazard Analysis Summary

**There are no new Accepted Risk hazards identified for STS-107.**

## FMEA/CIL Summary

**There are no new Criticality 1 failure modes identified for STS-107.**



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# STS-107 Concurrence Statement

**S&MA has reviewed the status of preparation for this mission and has performed an independent assessment of the readiness of the Space Shuttle program for the conduct of this mission. We are in concurrence with proceeding with this mission.**

**/s/ Yolanda Marshall**  
**SR&QA Director, JSC**

**/s/ Amanda Goodson**  
**S&MA Director, MSFC**

**/s/ Mark Erminger**  
**SS SR&QA Manager**

**/s/ Shannon Bartell**  
**Director, KSC Safety, Health  
and Independent Assessment**

**/s/ Bill Higgins**  
**Chief, Shuttle S&MA, KSC**

**/s/ Mike Smiles**  
**S&MA Manager, SSC**



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# STS-107

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### Backup Package



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# Additional Assessments

## Orbiter/GFE

- First Flight of Two Advanced Master Events Controllers (AMECs)
- Flight Rule Changes in Landing Site Selection Priority
- STS-109 Freon Coolant Loop (FCL) 1 Degraded Flow
- STS -113 Prelaunch Gaseous Oxygen (GO2) Leak in the Orbiter Mid-fuselage
- STS -113 Flash Evaporator System (FES) Shut Down on Primary B Controller
- Right Orbital Maneuvering System (OMS) Bi-propellant Ball Valve Open Indication
- Cracks in a CRES 321 Flowliner on the OV-102 Engine 2 (E2) Liquid Hydrogen (LH2) Propellant Feedline
- OV-104 Body Flap Actuator Corrosion

## EVA

- STS-113 EMU Boot Fit
- EMU Frayed Bio-Medical Cable

## Payloads

- Spacehab Hull Damage and Repair



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## Additional Assessments

### SSME

- First Flight of Main Engine Controller Coolant Duct Redesign

### External Tank

- LO2 LWT Normal Mission and RTLS Ullage Pressure Curves Waiver
- Vent Valve Relief Pressure

### RSRM

- STS-113 Postflight Observation – Foreign Material in RSRM Nozzle-to-Case Joint Radial Bolt Hole
- STS-113 Postflight Observation – Flashing on RSRM Nozzle-to-Case Joint Packing-with-Retainers

### SRB

- BSM Lead Shot FOD
- First Flight of Pacific Scientific Separation Bolts
- Cleaning Solvent Modification

### KSC Safety, Health and Independent Assessment

- Spacehab & Experiment Package Configuration Management